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ABSTRACT

A study examined the relationship between sex differences and the development of reading proficiency, specifically investigating if sex differences related to achievement on measures of silent reading comprehension, sight vocabulary, recognition of vocabulary in context, and use of structural analysis in word recognition taken separately or in combination. The subjects, 84 male and 79 female second-grade students who were reading at or above the 1.5 grade level, were tested using a series of separate Metropolitan Achievement Tests. Results indicated no significant differences in the reading scores of boys and girls. These results support previous findings of Steiner, Steinen, and Newman (1981) and represent a significant departure from the literature in which differences favoring females have been reported for the past several decades. (A table of data is included and references are attached.) (NH)

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Understanding the Nature and Scope of Sex Differences in Reading

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*Presenters are listed alphabetically. All made significant contributions to this study.

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Understanding the Nature and Scope of Sex Differences in Reading

Concern for the improvement of reading has resulted in detailed studies of the nature and extent of sex differences in reading (Dwyer, 1973; Johnson, 1973). Two viewpoints have emerged to account for the often-cited sex differences in reading achievement. Proponents of cultural causative factors cite sex role expectations and other social and educational factors as being the sources of differences between the sexes in reading achievement (Dwyer, 1973; Gentile & McMillan, 1976; Johnson, 1973; Sheridan & Fizdale, 1981). A second rationale has been advanced (Blom, Frey, Prawat, & Jarvis, 1981; Helfeldt, 1983) in which physiological factors have been viewed as primary sources of achievement differences between the sexes. In addition, it has been suggested (Steiner, Steinen, & Newman, 1981) that findings of recent studies in which expected patterns of differences favoring females have failed to emerge may signal the beginning of a trend away from sex differences in reading.

In order to reduce ambivalence concerning the nature and extent of sex differences in reading, a study was conducted to examine the relationship between sex and the development of reading proficiency. The research question for this study was: Is sex significantly related to achievement on measures of silent reading comprehension, sight vocabulary, recognition of vocabulary in context, and use of structural analysis in word recognition taken separately or in combination?

Method

Subjects

Eighty-four male and 79 female second-grade children who attended two primary schools in a small urban school system constituted the sample. All children in the sample had attained mastery of basal reading objectives at the 1.5 grade level or above.

Procedure

All second-grade children in two schools were tested during 3 consecutive weeks in the fall in order to determine level of proficiency in four skill areas of reading. The Metropolitan Achievement Tests: Reading Instructional Tests, Primary 1 and Primary 2, Form JI (Farr, Prescott, Balow, & Hogan, 1978) were administered to groups of subjects in their respective classrooms according to level of placement in the basal reading series. Because the performance level in reading among the subjects was high, the Primary 2, Form JI test was administered to all groups after administration of the Primary 1, Form JI test to those subjects who were reading at grade level or below. In all testing sessions, procedures suggested by the test authors (Farr et al., 1978) were followed.

Instrumentation

The Metropolitan Achievement Tests: Reading Instructional Tests at the primer level contain a series of separate tests which correspond to major learning strands of reading instruction. From the Primary 1, Form JI test, which is appropriate for use among

children reading at grade levels of 1.5 to 2.4, subtests measuring reading comprehension, sight vocabulary, vocabulary in context, and word part clues were administered in this study. From the Primary 2, Form JI test, which is appropriate for use among children reading at grade levels of 2.5 to 3.4, subtests measuring the same skills and strategies were given.

Published Kuder-Richardson Formula 20 reliability estimates (Farr et al., 1978) ranged from .86 to .96 for the Primary 1 tests and from .86 to .95 for the Primary 2 tests. For all students tested in the fall standardization of the Primary 2, Form JI tests, reliability estimates were reported to be .95 for reading comprehension, .90 for sight vocabulary, .92 for vocabulary in context, and .88 for word part clues.

Estimations of test reliability were obtained in the present study. Following the recommendation of Wilson, Downing, and Ebel (1977), the Kuder-Richardson Formula 21 was applied to scores obtained from students in the research sample in order to obtain reliability estimates for test items which may vary in level of difficulty. The following internal consistency coefficients for the separate tests were obtained: .93 for reading comprehension, .83 for sight vocabulary, .89 for vocabulary in context, and .84 for word part clues.

Data Analysis

Scaled scores from the Metropolitan Achievement Tests: Reading Instructional Tests were treated as dependent variables.

Specific scaled scores were obtained for reading comprehension, sight vocabulary, vocabulary in context, and word part clues.

The MANOVA procedure in the Statistical Package for the Social Sciences (Norusis, 1985) was used to test differences on the four reading measures among subjects grouped according to sex. The MANOVA procedure yields multivariate and univariate *F* ratios for the independent variables and interactions. Following the recommendations of Hummel and Sligo (1971), the univariate *F* ratios will be considered whenever a significant multivariate *F* ratio is obtained.

Results

The results of the MANOVA revealed the sex main effect was not significant, F (4, 156) = 1.44, $p > .05$. The null hypothesis that there is no significant difference between boys and girls on achievement or measures of reading comprehension, sight vocabulary, vocabulary in context, and word part clues in combination was supported.

Means and standard deviations are given in Table 1. As can be noted in this table, females scored higher on three of the four skill areas of reading than the males but the differences were not statistically significant.

Insert Table 1 about here

Discussion

The finding that no significant differences existed in the reading scores of boys and girls in the research sample was unexpected. Differences which favor females in reading readiness and reading performance have been reported in studies such as those by Dykstra and Tinney (1969) and Stanchfield (1973) in which it has been found that girls tended to read earlier and to be better readers than boys. However, the finding of no significant difference in reading scores for boys and girls in the research sample is supported by findings of the Steiner, Steinen, and Newman (1981) study in which no sex differences in reading achievement were found.

As Johnson (1973) stated, it would be reasonable to expect sex differences to be found consistently in studies of reading if achievement differences in reading could be attributed to inherent perceptual or physiological differences between the sexes. Therefore, the absence of sex differences for the research sample lends support to the conclusion expressed by Dwyer (1973), Gross (1978), and Sheridan and Fizdale (1981) that cultural attitudes toward reading are more likely to be causal factors in producing reading achievement differences between the sexes than are physiological factors. The findings of the study may be added to the evidence for documenting a change in the pervasive nature of reading achievement differences between the sexes.

The implication from the results of this study is to challenge a common research finding. This study represents a significant departure from the literature in which differences favoring females in beginning reading have been reported for the past several decades. It adds to the body of literature in which a trend away from achievement differences in reading between the sexes is indicated.

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Table 1

Means and Standard Deviations for Each of the Four Skill Areas of Reading By Sex

Group		Reading comprehension	Sight vocabulary	Word part clues	Vocabulary in context
Male	M	621.37	582.87	507.29	508.58
	SD	62.52	55.24	119.07	79.90
Female	M	633.29	580.54	530.38	523.96
	SD	68.21	52.53	94.90	73.85